In the claims:

1. (Original) A method for maintaining cache coherence in a multiprocessor system having a plurality of nodes, each node having at least one cache, a memory device local to the node, and at least one processor device, the method comprising:

storing information regarding the state of data exclusively in an interconnect communicatively connecting said nodes with one another, such that the interconnect is a sole repository of cache coherence information within the multiprocessor system;

checking said stored information to determine the location of the most current copy of a requested portion of data, in response to a request by a requesting node for the requested portion of data;

retrieving said current copy of requested portion of data and directing said data to the requesting node; checking said stored information to determine the location of the requested data; and

directing the system to send said requested data to the requesting node without going through said interconnect.

2. (Original) A multiprocessor computer system comprising:

a plurality of nodes, each node including at least one processor and portion of a shared distributed system memory coupled to said processor; and

an interconnect both communicatively connecting said nodes with one another and exclusively storing location and state information of data stored in the memory of the nodes such that the interconnect is a sole repository of cache coherence information within the multiprocessor computer system.

3. (Original) The multiprocessor system of claim 2, wherein each node includes memory accessible to it without communications through said interconnect, and memory accessible remotely by others of the nodes.

4. (Original) The multiprocessor system of claim 2 wherein further said interconnect stores information for determining which nodes or processors are storing copies of one or more identified data in each said node's memory.

5. (Original) The multiprocessor system of claim 2 wherein said interconnect compares requested data with the stored location and the state of data in the nodes, directs requested data to the requesting node, and sends requests for additional data to other nodes for which said device stores the location of data.

6. (Original) The multiprocessor system of claim 5 wherein said interconnect includes a dispatch buffer operatively connected to the nodes, and issues requests for information related to the state of identified data to other nodes simultaneously with the communication of data to a target node.

7. (Original) The multiprocessor system of claim 5 wherein said interconnect includes a first pathway storing the location and state of data in the nodes, and a second pathway communicating the data requested by said target node.

8. (Original) A method for maintaining cache coherence in a multiprocessor system having a plurality of nodes, each node having at least one cache, a memory device local to the node and at least one processor

device, the memory and processor device being coupled to form a complete subsystem, the method comprising:

storing information regarding the state of data exclusively in a first part of an interconnect communicatively connecting said nodes with one another, such that the interconnect is a sole repository of cache coherence information within the multiprocessor system;

said first part checking said stored information to determine the location of the most current copy of a requested portion of data, in response to a request by a requesting node for data;

said first part directing a second part of the interconnect to forward the said most current copy of said data to the requesting node; and

said second part retrieving said current copy of requested portion of data and directing said data to a target node.

9. (Original) The method of claim 8 wherein said first part checking said stored information to determine the location of the most current copy of a requested portion of data, in response to a request by a requesting node for data, comprises:

storing information about the state of data in each node in said first communications pathway;

checking the state of requested data stored in each node upon request for the data from a node by reading the said stored information and determining the desired state defined as the most current copy of said stored data.